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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,982	10/30/2001	Russell M. Matney	OS 98-017	6908

7590 01/28/2003  
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EXAMINER

CHAPMAN JR, JOHN E

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 01/28/2003

2

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/015,982

Applicant(s)

MATNEY ET AL.

Examiner

John E Chapman

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

### DETAILED ACTION

1. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

2. The disclosure is objected to because of the following informalities: The sentence on page 2, lines 15-18, is incomplete. Page 17, line 15, "5" should be changed to --9--.

Appropriate correction is required.

3. The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-13 are rejected under 35 U.S.C. 112, first and/or second paragraphs, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention, and/or as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

According to the specification, applicants' invention is to use one of two new methods designated as "mode converted signal" (MCS) and "full skip normalization" (FSN). It is not

evident that either method is being used in claim 1. Claim 1 appears to recite a conventional method of checking for reflections using a multiple skip method of Fig. 3 and sizing a surface crack using the conventional method of Fig. 2 or Fig. 3. It is not evident from the disclosure that applicants regarded such as their invention. Furthermore, in order for sound wave data to have signal reflections at  $\frac{1}{2}$  skip, full skip and  $1\frac{1}{2}$  skip locations, it is necessary to displace a transducer, as per Fig. 3. Accordingly, it should be made clear that the sound wave data is acquired by displacing a transducer along the direction of propagation of the sound waves.

Regarding claim 2, "using target motion TOF with MCS correction" is vague and indefinite. The steps which make up the method must be clearly and positively specified. In addition, it appears to be applicants' invention to use TOF with MCS only if there is no full skip signal. See page 17, lines 7-9. Accordingly, it should be made clear that TOF with MCS is used only if there is no reflection at the full skip location.

Regarding claim 3, "using FSN sizing method" is vague and indefinite. The steps which make up the method must be clearly and positively specified. In addition, it is not clear that claim 3 further limits claim 2, since claim 2 recites using TOF with MCS if there are  $\frac{1}{2}$  skip and  $1\frac{1}{2}$  skip signals, i.e., regardless of whether there is a full skip signal.

Regarding claim 4, the claim must be in one sentence form only. The steps which make up the FSN method must be clearly and positively specified. There is no antecedent basis for either "the surface" or "the UT transducer" in line 4. The expression "can be used" does not recite a positive limitation.

Regarding claim 5, "a convenient formula" is vague and indefinite.

Regarding claim 6, the recited formula is based on a wall thickness of 0.050". See page 15, line 11, to page 16, line 12. It is not clear that the formula has utility for wall thicknesses in the entire range from 0.035" to 0.070".

Regarding claim 7, the meaning of "UT" in line 2 is not clear.

Regarding claim 9, there is no antecedent basis for "the UNCORRECTED UT DEPTH ESTIMATE."

Regarding claim 10, there is no antecedent basis for "the UNCORRECTED TOF DEPTH PREDICTION." Furthermore, it is not clear from the disclosure how applicants calculate "the UNCORRECTED TOF DEPTH PREDICTION." The claim must be in one sentence form only.

Regarding claim 11, there is no antecedent basis for "the CORRECTED TOF DEPTH PREDICTION" and "the UNCORRECTED UT DEPTH ESTIMATE."

Regarding claim 12, there is no antecedent basis for "the MCS correction factor."

Regarding claim 13, "according to Fig. 9" is vague and indefinite.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(f) he did not himself invent the subject matter sought to be patented.

6. Claim 1, as best understood, is rejected under 35 U.S.C. 102(f) as being anticipated by the admitted prior art of Fig. 3.

Claim 1 appears to recite a conventional method of checking for reflections using a multiple skip method of Fig. 3. Note that the full skip reflection comprises a crack tip signal, and indicates the size of the crack, namely nearly through the wall. See page 3, lines 20-22.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

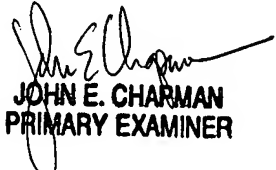
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 1, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art of Figs. 2 and 3.

Claim 1 appears to recite a conventional method of checking for reflections using a multiple skip method of Fig. 3, but using the more accurate method of crack sizing of Fig. 2 if possible. Merely to use the most accurate method of crack sizing, whenever possible, would have been obvious to one having ordinary skill in the art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Chapman whose telephone number is (703) 305-4920.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

  
JOHN E. CHARMAN  
PRIMARY EXAMINER